

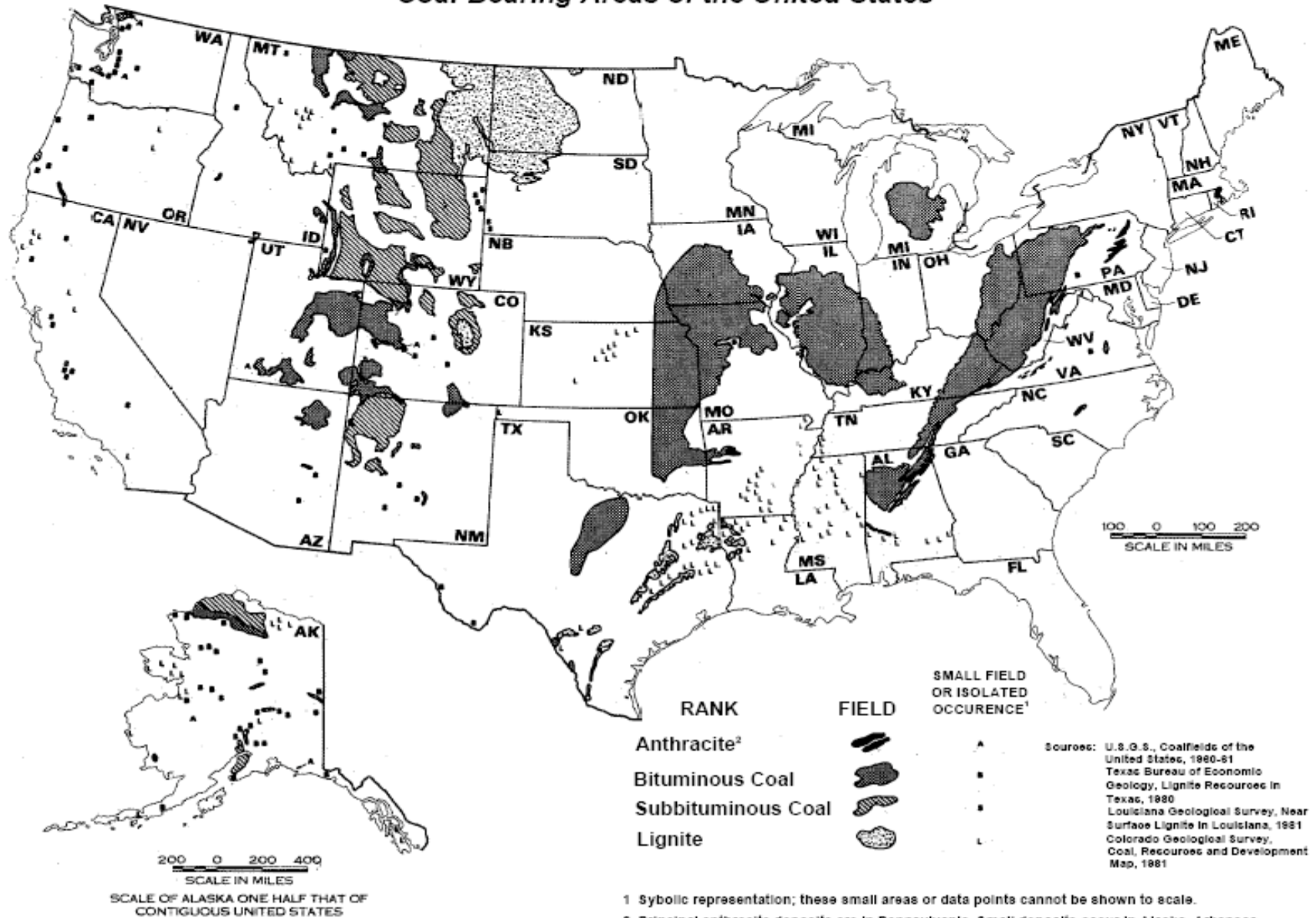
A Briefing on the Future of the Utah Coal Industry

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For: Utah Energy Forum

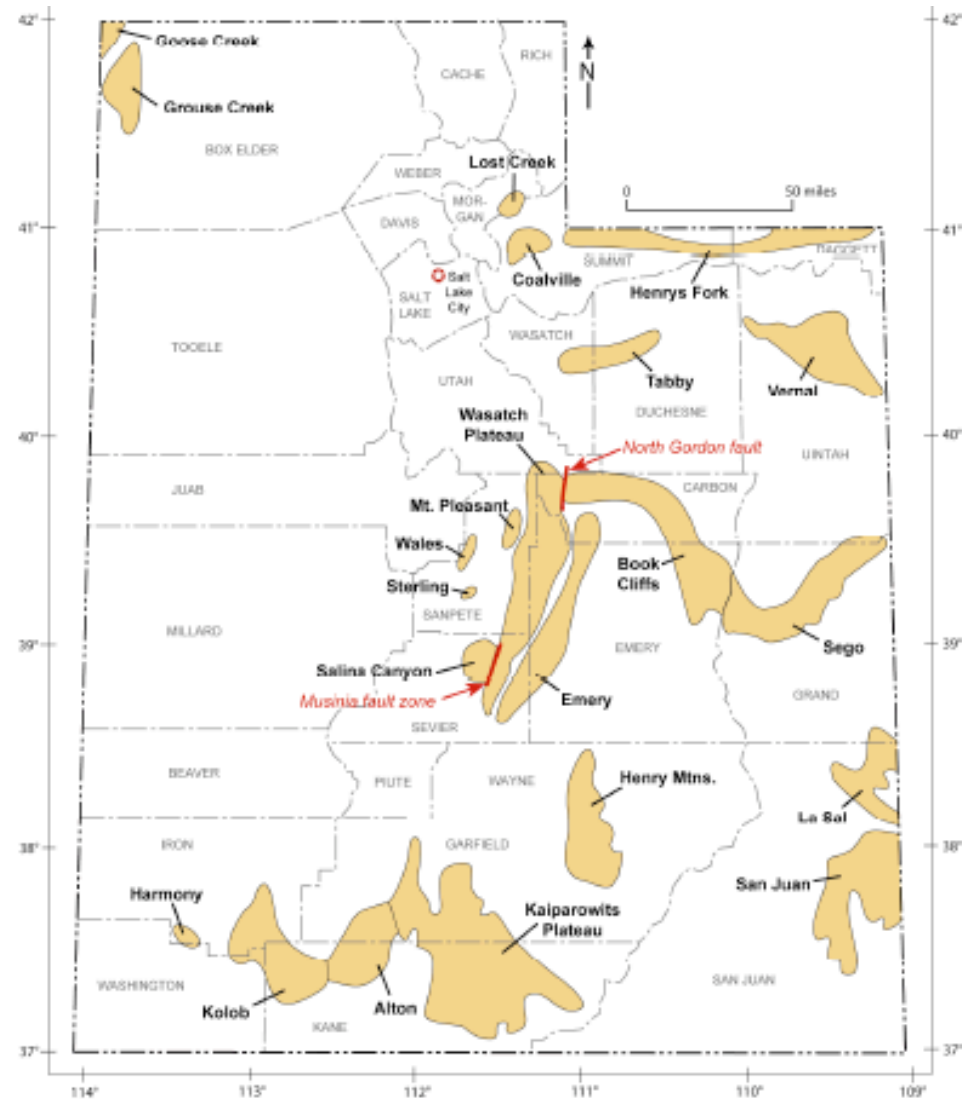
Coal-Bearing Areas of the United States



¹ Symbolic representation; these small areas or data points cannot be shown to scale.

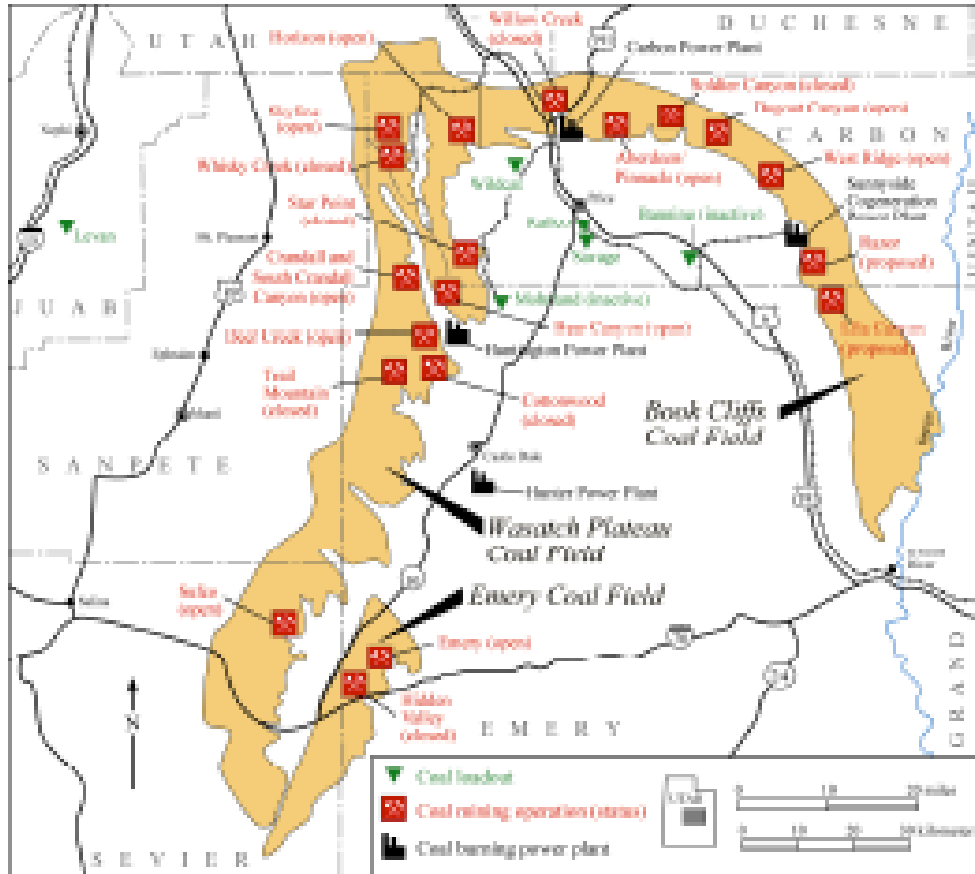
² Principal anthracite deposits are in Pennsylvania. Small deposits occur in Alaska, Arkansas, Colorado, Massachusetts-Rhode Island, New Mexico, Utah, Virginia, Washington and West Virginia.

Location of Utah coal fields



Source: UGS

Location and status of Utah coal mining operations



Source: UGS

Overview of Utah Coal Industry

- Three areas in Carbon, Emery, Sanpete & Sevier Counties have been producing coal for over 100 years:
 - Wasatch Plateau (59%)
 - Book Cliffs (36%)
 - Emery (5%)
- Have extracted over 960 million tons to date: whereas only slightly more than 10 million tons of coal have been extracted elsewhere in the state.
- The 960 million tons represents about 40% of the “potential” reserve base in this area of 2300 million tons.

Overview of Utah Coal Industry

- From 1870 – 1981, approximately 420 million tons of coal were mined in Utah, an average of less than 4.0 million tons over 111 years.
- With the introduction of longwall mining technology, in the 22 years from 1982 – 2004, another 490 million tons of coal was mined, an average of over 22 million tons per year.
- Therefore, Utah coal resources are being consumed at a much higher rate than in the past, and further higher rates of production will be needed to meet expected consumer demand.

Overview of Utah Coal Industry

- Utah currently has 13 producing underground coal mines, which employ over 1800 people.
- Publicly traded coal operations in Utah in these areas list coal reserves of about 380 million tons, or a reserve base of 15 years.
- Some analyst estimate there are over 1400 million tons of remaining minable coal in central Utah, which would – at 25 million tons per year production level – last until 2060.
- Utah coal production in 2005 was 25 million tons, which ranked Utah as 14th out of approximately 26 coal producing states, -- only 2.0% of U.S. coal production.

Overview of Utah Coal Industry

- Utah coal mines productivity was 5.15 tons/employee hours in 2005 compared with the western underground average of 8.25 tons/employee hour.
- Nearly 40% of Utah coal was exported outside the state in 2005.
- Three new Utah coal mines are in various stages of the permitting process:
 - Book Cliffs coal field: Lila Canyon and Razor mines
 - Alton coalfield: Alton

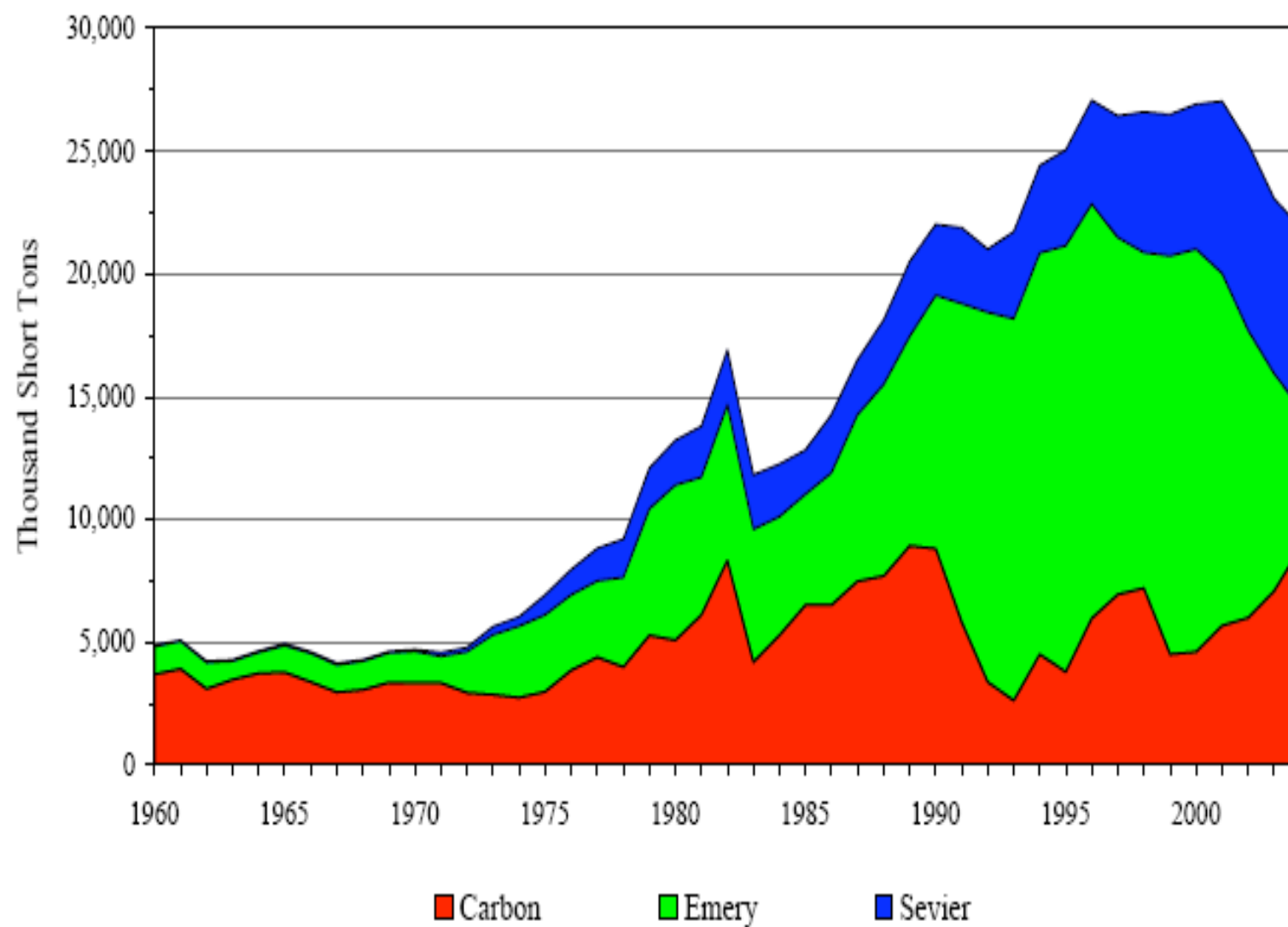
Remember:

- The amount of minable Utah coal resources has been one of great debate.

Utah Coal Industry: Caveats

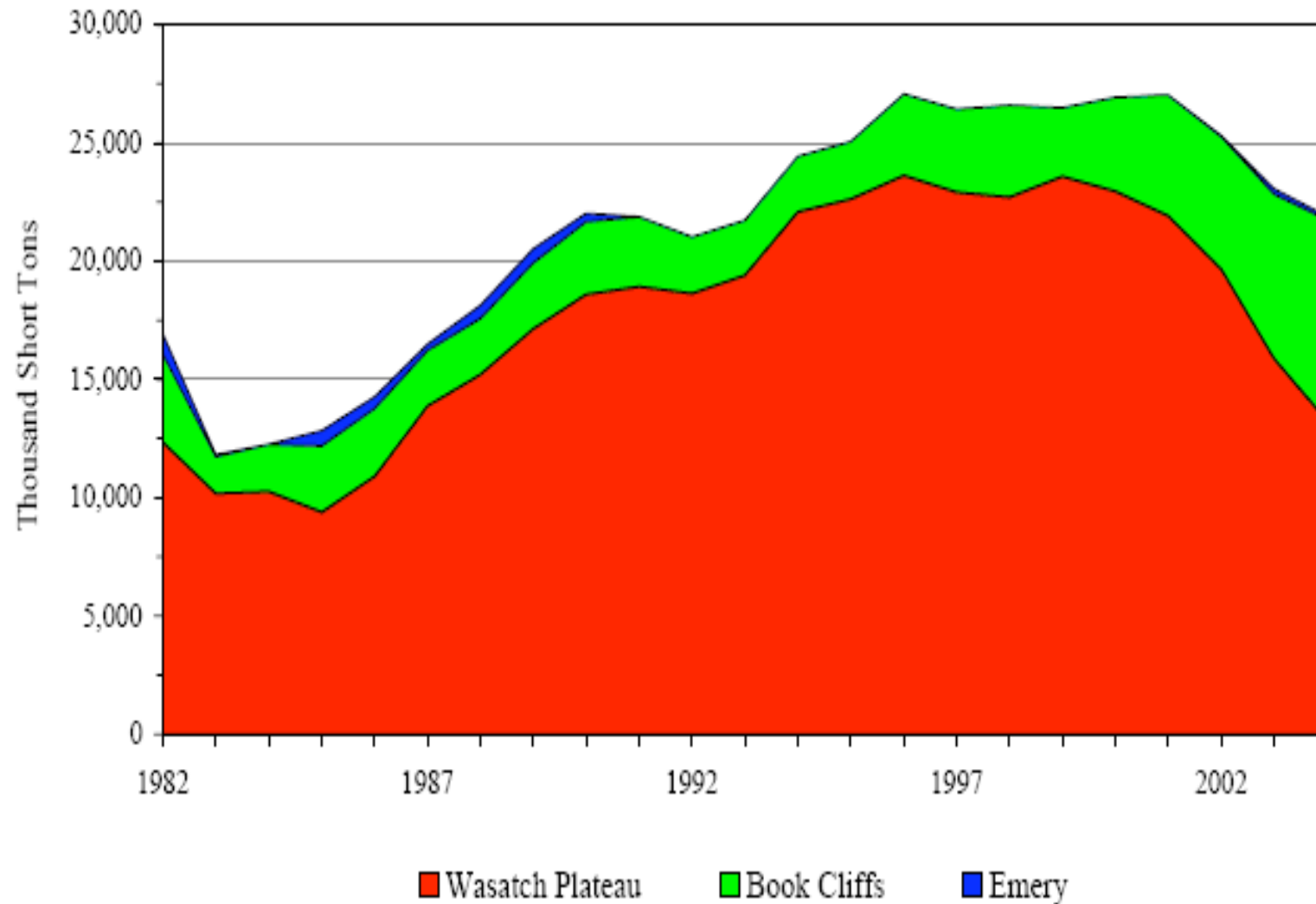
- The easiest/low cost to mine and best quality coal from central Utah has been mined. Remaining coal is therefore more expensive to extract and of lower quality.
- Long-term large consumers of Utah coal, which sign 20-30 year contracts, are making decisions which question the reality of a remaining 50 year supply.
- Coal imports into Utah from Colorado and Wyoming have occurred over recent years, with the percentages of coal imports increasing annually.
- Reliability of Utah coal supply is a critically important issue. A major unexpected mishap in the Utah coal industry could severely hamper the ability of large coal consumers in Utah to get sufficient amounts of Utah coal.
- New Utah power plants under consideration (1200 million tons of capacity) are being designed to burn Wyoming coal directly, or a combination of Utah and other state coals.

Figure 2.2 - Coal Production in Utah by County, 1960-2004



Source: State of Utah Department of Natural Resources, Energy Office

Figure 2.3 - Coal Production in Utah by Coal Field, 1982-2004



Source: State of Utah Department of Natural Resources, Energy Office

2004 In-State Utah Coal Consumption By Electric
Generators and Production By State
(Thousand Short Tons)

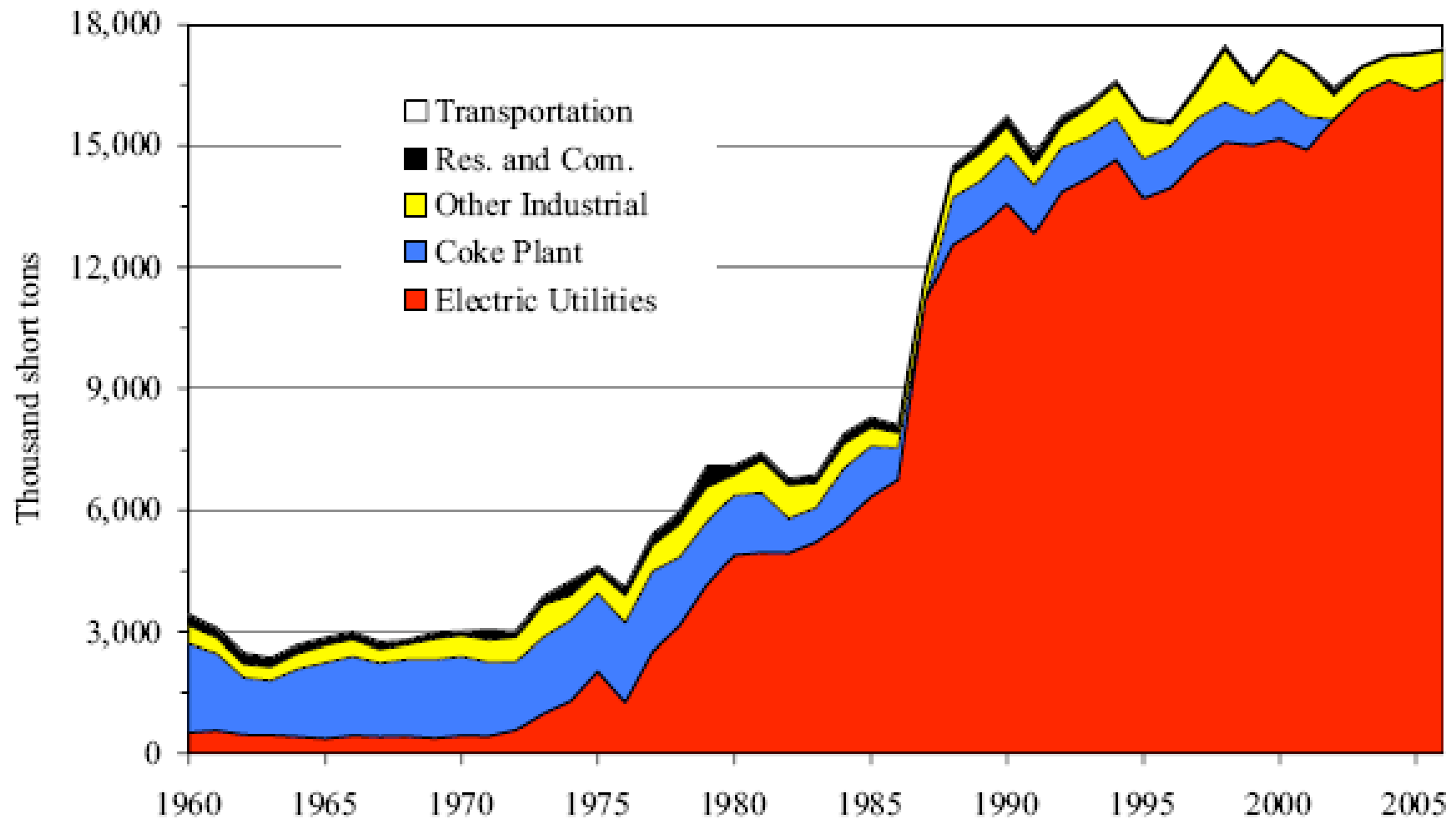
	Production	Consumption	%
UT*	21,746	16,811	77.3%
CO**	39,870	12,160	30.5%
WY***	376,270	25,861	6.9%

* Utah Energy Office

** Colorado Mining Assn.

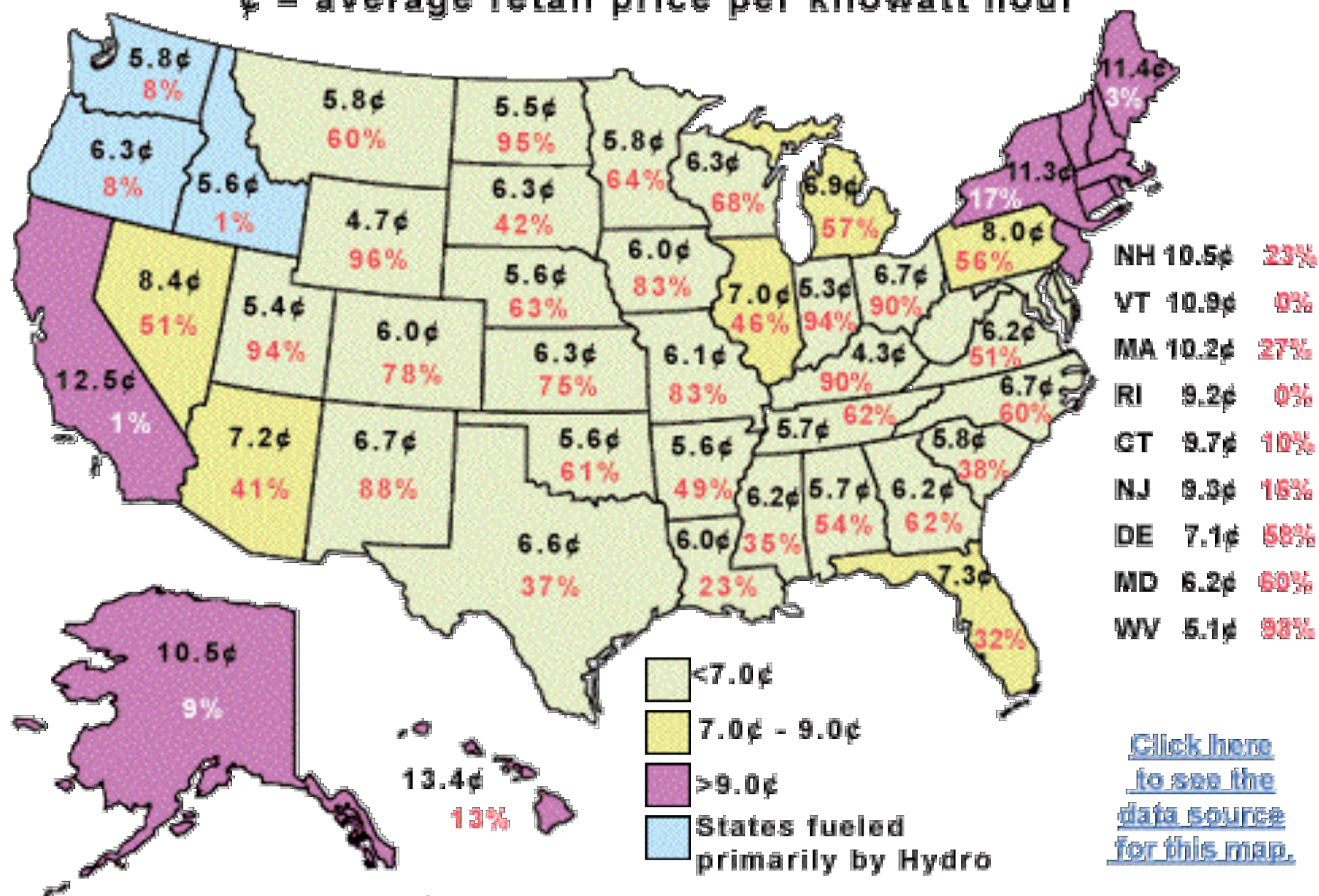
*** Wyoming Data is From 2003

Consumption of Coal in Utah by End Use, 1960-2006



Source: U.S. Energy Information Administration, Annual Coal Report

% = Total Electricity Generated by Coal
¢ = average retail price per kilowatt hour



Source: National Mining Association

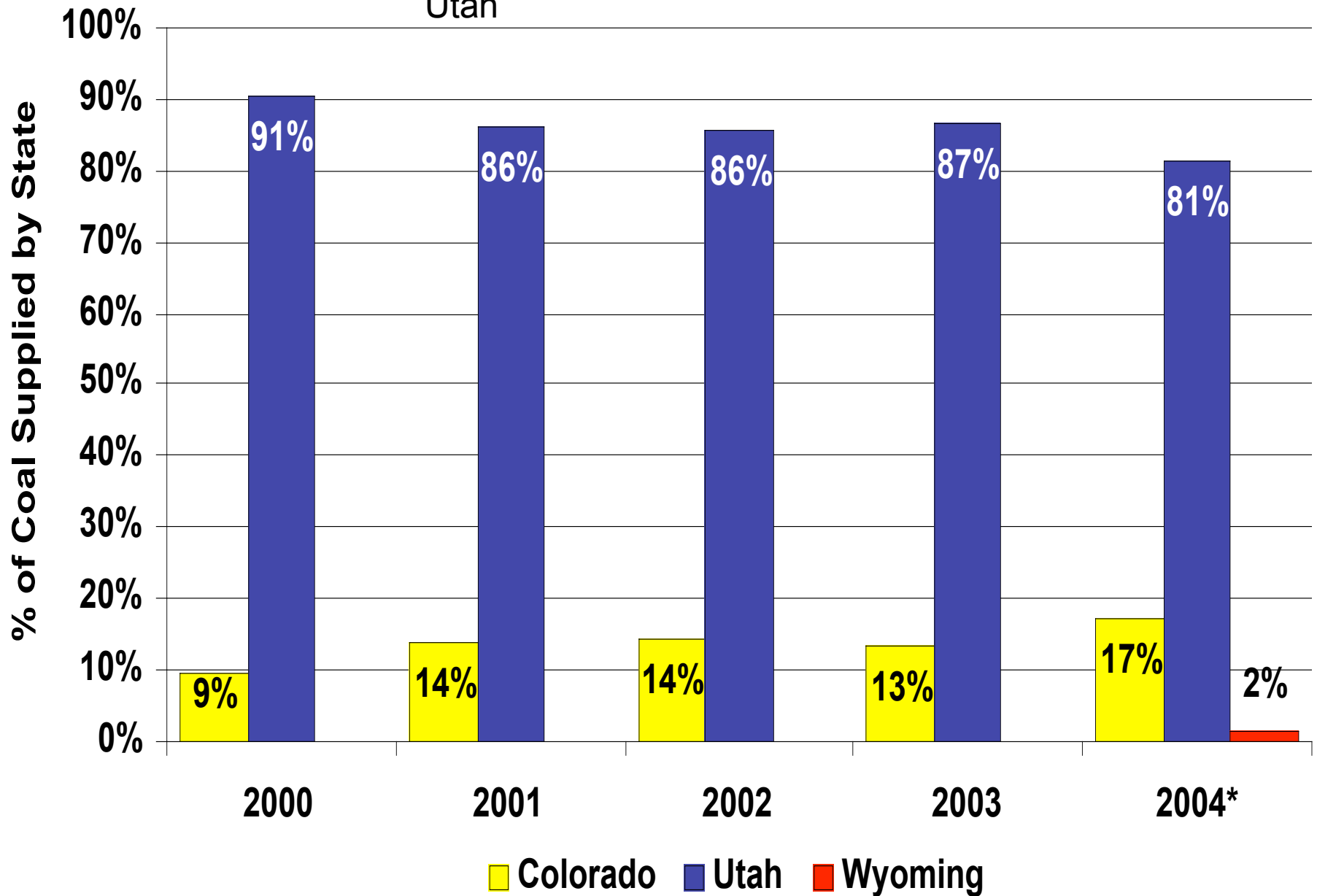
[Click here to see the data source for this map.](#)

U.S. Coal Reserves by State and Type – 2003 (Thousand Short Tons)

- | | Reserves at Active Mines | U.S. Estimated Recoverable Reserves |
|----|---------------------------------|--|
| UT | 331 | 2,771 |
| CO | 427 | 9,837 |
| WY | 6,707 | 42,232 |

Source: Energy Information Administration

Source of Coal Consumed in Utah



Source: Arch Coal, Inc.

Governor's 2006 Energy Advisor's Report to Utah Legislature

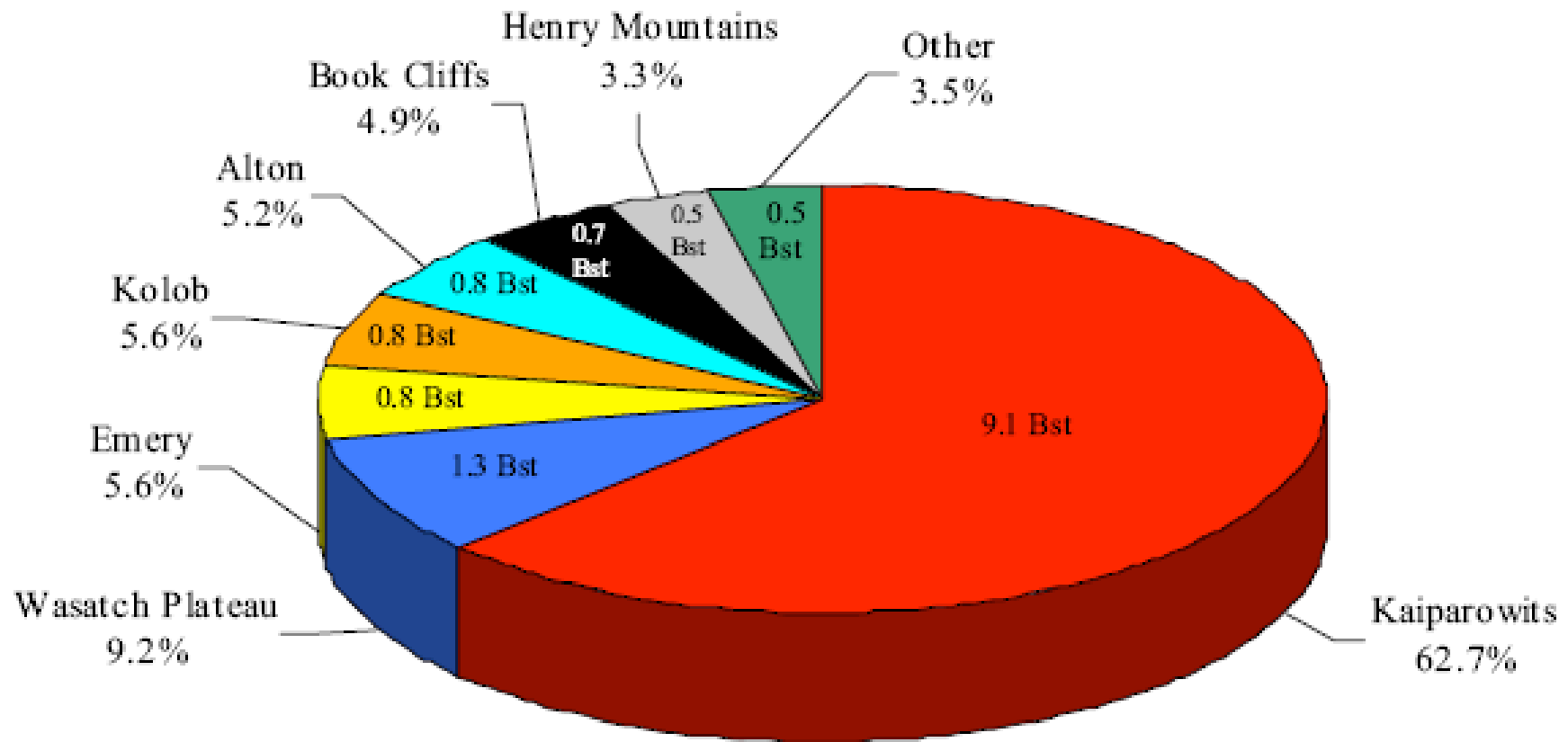
“If Utah wishes to sustain a coal mining industry and use coal-fired electric power generation, the state and the coal industry will have to look to other coal areas in the state for minable coal”

Question: Where are these areas?

Alton, Kaiparowits Plateau, Kolob, Henry Mountains, Salina Canyon, and Sego Coal Fields

Remaining Recoverable Reserves in Utah by Coal Field 2005

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Source: Smith and Jahanbani, 1988, Quick and other, 2004

CONCLUSIONS

- Mining jobs are stable, long term, and the highest paying in Utah, often located in remote rural areas.
- Utah's easily minable coal reserves will be depleted at current rates of production in 15 to 20 years.
- The best remaining Utah coal reserves – high BTU's/low sulfur – are located in the Kaiparowits Plateau, now in the “Escalante National Monument.”
- For a viable Utah coal industry in the future, access to mine the coal reserves in the Escalante National Monument is CRITICAL.